TABLE 37

Domestic R&D paid for by others and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

						outside the States	!				U.S.	Foreign universities,	4	All c	other
Industry and company size	NAICS code	Total	Companiin the United States		Company's parent	Unaffiliate companies		nent	U.S. state government agencies	Foreign government agencies	colleges, and academic	colleges, and academic researchers	In th Unite State	e ed	Outside the United States
All industries	21-23, 31- 33, 42-81	63,230	19,087		15,775	2,558	24,68	5	103	248	66	5	366		337
Manufacturing industries	31-33	39,393	5,323		12,871	1,752	18,980		33	183 - 230	12	*	81		108 - 159
Food	311	242	3		235	*	i ·	i	0	0	0	0	3		0
Beverage and tobacco products	312	109	1	i	106	0	(0	0	0	0	2	i	0
Textile, apparel, and leather products	313-16	4	*	i	* i	0	(0	0	0	0	3		0
Wood products	321	4	*	i	4	*	i :	i	* i	0	* i	0	*	i	*
Paper	322	2	1	i	1	0	()	0	0	0	0	0		0
Printing and related support activities	323	4	1		3	*	i ·	i	* i	0	* i	0	*	i	*
Petroleum and coal products	324	23	5		18	1	-		0	0	0	0	0		0
Chemicals	325	10,553	2,277		6,811	1,190	204		15	0	8	*	29		19
Basic chemicals	3251	192	12		168	12	-	i	0	0	0	0	0		0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	85	5	i	71 - 80	0 - 7	i	i	* i	0	* i	0	*	i	*
Pesticide, fertilizer, and other agricultural chemicals	3253	326	0 - 5	i	310 - 323	0 - 7	i 3		* j	0	* i	0	*	i	*
Pharmaceuticals and medicines	3254	9,792	2,257		6,103	1,173	188	3	15	0	8	*	29		18
Soap, cleaning compound, and toilet preparation	3256	137	0 - 5	i	125 - 138	0 - 7	i ·	i	* i	0	* i	0	*	i	*
Paint, coating, adhesive, and other chemicals	3255, 3259	21	0 - 5	i	0 - 11	0 - 7	i 11		* i	0	* i	0	*	i	*
Plastics and rubber products	326	83	68		11	*	2	2	0	0	*	0	2		0
Nonmetallic mineral products	327	24	7		15	*		2	*	0	0	0	0		0
Primary metals	331	22	i 5		5 i	7		i i	2	*	*	0	*	i	0
Fabricated metal products	332	105	55		46	*	i 3	i	0	* i	* i	0	*	i	*
Machinery	333	1,034	187		598 - 666	0 - 66	175	5	2 i	0	*	0	4		0
Agricultural implement	33311	10	*		0 - 8	0 - 8		2	0	0	0	0	0		0

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	NAICS code				s outside the d States				U.S.	Foreign universities,	Al	l other
Industry and company size		Total	Companie in the United States	Company's parent	Unaffiliated companies	U.S. federal government agencies	U.S. state government agencies	Foreign government agencies	colleges, and academic	colleges, and academic researchers	In the United States	United
Semiconductor machinery	333242	543	3	i 473 - 541	0 - 66	* i	* i	0	0	0	*	i 0
Engine, turbine, and power transmission equipment	3336	173	13	15	0	145	0	0	0	0	*	0
Other machinery	other 333	307	171	36 - 104	0 - 66	28	2 i	0	*	0	4	0
Computer and electronic products	334	9,775	1,499	2,645	321	5,174	0 - 16	0 - 47	2	*	7 - 29	i 59 -
Communications equipment	3342	1,285	i 340	i 109	8	821 i	* i	* i	* i	0	3	i 3
Semiconductor and other electronic components	3344	2,410	270	1,879	194	50	*	0 - 10	0 - 3	*	4 - 12	i 0 -
Navigational, measuring, electromedical, and control instruments	3345	5,863	870	561 - 659	23 - 121	4,198	0 - 16	0 - 47	0 - 3	0	0 - 12	45 - 108
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	163	0 - 12	151	* i	1 i	* i	0	0	0	0 - 12	*
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	5,455	798 - 871	210 - 417	0 - 121	4,152	0 - 16	0 - 47	0 - 3	0	0	45 - 108
Other measuring and controlling device	other 3345	245	0 - 60	20 - 200	0 - 121	46	* i	0	0 - 3	0	*	i 0
Other computer and electronic products	other 334	217	18	0 - 94	0 - 94	105	*	0	0	0	1	0
Electrical equipment, appliances, and components	335	266	23	191	11	39	* i	0	0	0	1	i 0
Transportation equipment	336	16,735	1,118	1,906	151	13,321 i	0 - 16	184	1	0	6 - 28	29
Motor vehicles, bodies, trailers, and parts	3361-63	2,506	436	1,882	96	64 - 88	0 - 16	0	0	0	0 - 25	*
Aerospace products and parts	3364	13,131	i 680	0 - 16	55	12,167 i	0	184	1	0	2 - 18	29
Aircraft, aircraft engine, and aircraft parts	336411-13	12,222	i 651 - 667	0 - 16	55	11,286 i	0	184	1	0	3	29
Guided missile, space vehicle, and related parts	336414-15, 336419	909	12 - 29	0	0	881	0	0	* i	0	0 - 16	0

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					s outside the d States				U.S. universities.	Foreign universities,	Al	l other	
Industry and company size	NAICS code	Total	Companie in the United States		Unaffiliated companies		U.S. state government agencies	Foreign government agencies	colleges, and academic	colleges, and academic researchers	In the United States	Uni	e ted
Military armored vehicle, tank, and tank component	336992	6	0 - 4	0	0	2 - 6	0	0	0	0	0		0
Other transportation	other 336	1,092	0 - 4	i 8 - 25	*	i 1,062 - 1,084	0	* i	0	0	0		0
Furniture and related products	337	5	3	*	*	i 3	i 0	* i	0	0	0		*
Miscellaneous	339	402	71	202 - 270	i 8 - 75	54	* i	0	*	0	*	i (0
Medical equipment and supplies	3391	264	57	150	9	47	* i	0	*	0	0		0
Other miscellaneous manufacturing	3399	138	i 14	i 52 - 119	0 - 66	i 6	0	0	* i	0	*	i (0
Nonmanufacturing industries	21-23, 42- 81	23,838	13,764	2,904	806	5,705	70	18 - 65	53	4	285	178 229	
Mining, quarrying, oil and gas extraction, and support activities	21	130	90 - 125	0	4 - 39	0	0	0	0	0	*		0
Utilities	22	51	17	3	1	30	* i	0	0	0	*		0
Wholesale trade	42	25	1	i 24	1	0	0	0	0	0	0		0
Electronic shopping and electronic auctions	454111-12	94	0	93	0	2	i 0	0	0	0	0		0
Transportation and warehousing	48-49	7	7	0	0	0	0	0	0	0	0		0
Information	51	862	51	605	124	50	* i	0	0	0	31		*
Publishing	511	489	10	319	104	36	0	0	0	0	20		*
Newspaper, periodical, book, and directory publishers	5111	*	*	i 0	*	i *	i 0	0	0	0	0		0
Software publishers	5112	489	10	319	104	36	0	0	0	0	20		*
Telecommunications	517	65	0 - 20	27 - 47	0	8	0	0	0	0	10		0
Data processing, hosting, and related services	518	191	23	i 138 - 162	0 - 21	5	* i	0	0	0	1	i	*
Other information	other 51	117	0 - 20	76 - 117	0 - 21	i 1	i 0	0	0	0	*	i	*
Finance and insurance	52	45	0	0	0	0	0	0	0	0	45		0
Real estate and rental and leasing	53	0	0	0	0	0	0	0	0	0	0		0

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								U.S.	Foreign	All	other	
NAICS code	NAICS code	Total	Companies in the United States	Company's parent	Unaffiliated companies	U.S. federal government agencies		Foreign government agencies	colleges, and academic	colleges, and academic	In the United	
533	0	0	0	0	0	0	0	0	0	0	0	
other 53	0	0	0	0	0	0	0	0	0	0	0	
54	22,486	13,504	2,162	635	5,620	54	18 - 65	53	4	208	178 - 229	
5413	1,684	480	41	15	875	8	0 - 47	16	0 - 5	38	161 - 212	
5415	2,291	409	1,334	9	493	23	0 - 8	14	0 - 5	2	0	
5417	17,761	12,313	715	586	3,920	18	19	22	0 - 5	153	10 - 17	
541711	5,037	4,460	106	303	77	0 - 15	* j	15	0	47 - 68	11	
541712	12,080	7,836	609	282	3,215 - 3,324	4	19	6	0 - 5	0 - 107	0 - 6	
541720	644	18	0	0	518 - 627	0 - 15	*	1	0	0 - 107	0	
other 54	750	302	73	25	332	4	0	1 i	0	14 i	*	
621-23	75	62 i	0	9 i	4	0	0	0	0	1	0	
23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	62	0 - 30	17	0 - 30	1 i	16	0	0	0	0	0	
-	63,230	19,087	15,775	2,558	24,685	103	248	66	5	366	337	
_	1,050	348	145	38	462	4 i	22	12	1	14	5	
_	1,695	496	333	38 i	759	7	2	21	2	38	*	
	533 other 53 54 5413 5415 54171 541711 541712 541720 other 54 621–23 23, 44–45 (excluding 454111–12), 55–56, 624,	533 0 other 53 0 54 22,486 5413 1,684 5415 2,291 5417 17,761 541711 5,037 541712 12,080 541720 644 other 54 750 621-23 75 23,44-45 (excluding 454111-12), 55-56,624, 71-72,81 - 63,230 - 1,050	NAICS code Total in the United States 533 0 0 other 53 0 0 54 22,486 13,504 5413 1,684 480 5415 2,291 409 5417 17,761 12,313 541711 5,037 4,460 541712 12,080 7,836 541720 644 18 other 54 750 302 621-23 75 62 i 23,44-45 (excluding 454111-12), 55-56,624, 71-72,81 0-30 0-30 55-56,624, 71-72,81 - 63,230 19,087 - 1,050 348	NAICS code Total Companies in the United States Company's parent 533 0 0 0 other 53 0 0 0 54 22,486 13,504 2,162 5413 1,684 480 41 5415 2,291 409 1,334 5417 17,761 12,313 715 541711 5,037 4,460 106 541712 12,080 7,836 609 541720 644 18 0 other 54 750 302 73 621-23 75 62 i 0 23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81 62 0-30 17 - 63,230 19,087 15,775 - 1,050 348 145	NAICS code Total In the United States Company's parent Unaffiliated companies 533 0 0 0 0 0 other 53 0 0 0 0 0 54 22,486 13,504 2,162 635 5413 1,684 480 41 15 5415 2,291 409 1,334 9 5417 17,761 12,313 715 586 541711 5,037 4,460 106 303 541712 12,080 7,836 609 282 541720 644 18 0 0 other 54 750 302 73 25 621-23 75 62 i 0 9 i 23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81 62 0-30 17 0-30 0-30 - 63,230 19,087 15,775 2,558 - 1,050 348	NAICS code Total Companies in the United States Company's parent Companies in the United States Company's parent Companies Companies	NAICS code	NAICS code Total Total Companies In the United States Company's Unaffiliated parent Unaffiliated companies U.S. federal government agencies Government agencies Foreign government agencies Foreign government agencies Company's U.S. federal government agencies Company's Company's U.S. federal government agencies Company's U.S. federal government agencies Company's U.S. federal government agencies Company's Company's U.S. federal government agencies Company's Company's Company's U.S. federal government agencies Company's Company's Company's Company's U.S. federal government agencies Company's C	NAICS code Total Companies in the United States Company's Unaffiliated Government agencies U.S. state government agencies Foreign government agencies Groeign government age	NAICS code Total States Companies In the United States Companies Companies U.S. federal government U.S. state government Gagencies Gagencies Gagencies Gagencies Gagencies Colleges, and academic researchers C	NAICS code Total States NAICS code Total States States NAICS code Total States NAICS code Total States NAICS code Total States NAICS code Total NAIC	

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Domestic R&D paid for by others and performed by the company, by source of funds, industry, and company size: 2018 (Millions of U.S. dollars)

				Companies outside the United States					U.S. universities,	Foreign universities,	All	other
Industry and company size	NAICS code	Total	Companies in the United States	Company's parent	Unaffiliated companies	U.S. federal government agencies	U.S. state government agencies	Foreign government agencies	colleges, and academic researchers	colleges, and academic researchers	In the United States	Outside the United States
50-99	_	1,875	550	522	121	561	15	* i	15	*	82	9
100-249	_	3,921	920	1,457	58	1,378	8	10	13	1	73	4
Large companies												
250-499	_	3,041	622	1,084	233	1,016	26	* i	2	* i	51	8
500-999	_	2,096	467	909	382	128	* i	* i	1 i	* i	1 i	209 i
1,000-4,999	_	10,068	1,202	6,842	493	1,462	28	*	1	*	25	15
5,000-9,999	_	9,063	7,064 i	359	443	1,175	* i	0	1	0	21	* i
10,000-24,999	_	9,997	3,259	3,881	677	2,161	9	0	0	0	10	0
25,000 or more	_	20,423	4,161	243	76	15,583	6	214	*	0	52	87

^{* =} amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and U.S. Census Bureau, Business Research and Development Survey, 2018.

^a Business Research and Development Survey does not include companies with fewer than 10 domestic employees.